AMENDMENTS TO THE CLAIMS

For the convenience of the Examiner, all claims have been presented whether or not an amendment has been made. The claims have been amended as follows:

1. **(Currently Amended)** A method of detecting a computer virus ~~that attempts to gain access to restricted computer system resources~~, comprising:

emulating computer executable code in a subject file; ~~and~~

~~monitoring the emulation of the computer executable code and monitoring~~ **detecting at least one modification to** a memory state of ~~the~~ **a** computer system**, wherein the at least one modification:** ~~for modifications~~

is caused by the ~~emulated instructions in~~ **emulation of** the computer executable code~~, to detect an attempt by the emulated code to access one or more of the restricted computer system resources.~~ **; and**

comprises installation of an exception handler or an interrupt handler.

2. **(Currently Amended)** The method of Claim 1, wherein**:**

the at least one modification comprises ~~monitoring the emulation includes detecting~~ installation of **an** ~~new~~ exception handler**; and**

the emulated computer executable code comprises instructions for ~~followed by~~ forcing ~~of~~ a corresponding exception.

3. **(Currently Amended)** The method of Claim 1, **further comprising:**

~~wherein monitoring the emulation includes~~ detecting writing of a ~~new~~ pointer to at least one predetermined address in **a** system memory for storing an exception handler pointer.

4. **(Currently Amended)** The method of Claim 1, **further comprising:**

~~wherein monitoring the emulation includes~~ detecting installation, in **a** system memory, of a ~~new~~ pointer to an exception handler.

5. **(Currently Amended)** The method of Claim 1, wherein**:**

the at least one modification comprises ~~monitoring the emulation includes detecting~~ installation of **an** ~~a new~~ interrupt handler**; and**

the emulated computer executable code comprises instructions for ~~followed by~~ forcing ~~of~~ a corresponding interrupt.

6. **(Currently Amended)** The method of Claim 1, **further comprising:**

~~wherein monitoring the emulation includes~~ detecting writing of a ~~new~~ pointer to at least one predetermined address in **a** system memory for storing an interrupt handler pointer.

7. **(Currently Amended)** The method of Claim 1, **further comprising:**

~~wherein monitoring the emulation includes~~ detecting use of a predetermined instruction to retrieve an address in **a** system memory corresponding to an interrupt descriptor table.

8. **(Currently Amended)** A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method ~~steps~~ for detecting a computer virus ~~that attempts to gain access to restricted computer system resources~~, the method ~~steps~~ comprising:

emulating computer executable code in a subject file; ~~and~~

~~monitoring the emulation of the computer executable code and monitoring~~ **detecting at least one modification to** a memory state of ~~the~~ **a** computer system**, wherein the at least one modification:** ~~for modifications~~

is caused by the ~~emulated instructions in~~ **emulation of** the computer executable code~~, to detect an attempt by the emulated code to access one or more of the restricted computer system resources.~~ **; and**

comprises installation of an exception handler or an interrupt handler.

9. **(Currently Amended)** A computer system, comprising:

a processor; and

a program storage device readable by ~~the~~ **a** computer system, tangibly embodying a program of instructions executable by the processor to perform **a** method ~~steps~~ for detecting a computer virus ~~that attempts to gain access to restricted computer system resources~~, the method ~~steps~~ comprising:

emulating computer executable code in a subject file; ~~and~~

~~monitoring the emulation of the computer executable code and monitoring~~ **detecting at least one modification to** a memory state of ~~the~~ **a** computer system**, wherein the at least one modification:** ~~for modifications~~

is caused by the **emulation of** ~~emulated instructions in~~ the computer executable code~~, to detect an attempt by the emulated code to access one or more of the restricted computer system resources.~~ **; and**

comprises installation of an exception handler or an interrupt handler.

10. **(Currently Amended)** A computer data signal embodied in a transmission medium which embodies a program of instructions executable by a computer for detecting a computer virus ~~that attempts to gain access to restricted computer system resources~~, comprising:

a first segment ~~including~~ **comprising** emulation code to emulate computer executable code in a subject file; and

a second segment ~~including monitor~~ **comprising detector** code to ~~monitor emulation of the computer executable code and monitoring~~ **detect at least one modification to** a memory state of ~~the~~ **a** computer system**, wherein the at least one modification:** ~~for modifications~~

is caused by the **emulation of** ~~emulated instructions in~~ the computer executable code; and

comprises installation of an exception handler or an interrupt handler ~~a third segment including detector code to detect an attempt by the emulated code to access one or more of the restricted computer system resources~~.

11. **(Currently Amended)** An apparatus for detecting computer viruses ~~that attempt to gain access to restricted computer system resources~~, comprising:

an emulator component~~, wherein the emulator component emulates~~ **operable to emulate** computer executable code in a subject file; **and**

a ~~monitor~~ **detector** component~~, wherein the monitor emulation of the computer executable code and monitoring~~ **operable to detect at least one modification to** a memory state of ~~the~~ **a** computer system**, wherein the at least one modification:** ~~for modifications~~

is caused by **emulation of** ~~the emulated instructions in~~ the computer executable code~~, and supplies information regarding the emulated code and modification of the memory state~~; and

comprises installation of an exception handler or an interrupt handler ~~a detector component, wherein the detector component, based on the information supplied by the monitor component regarding the emulated code execution and modification of memory state by the emulated code execution, detects an attempt by the emulated code to access one or more of the restricted computer system resources~~.

12. **(Currently Amended)** The apparatus of Claim 11, wherein the ~~monitor~~ **detector** component **is further operable to monitor a** ~~monitors~~ system memory.

13. **(Currently Amended)** The apparatus of Claim 11, wherein **the at least one modification comprises** ~~the detector component detects~~ installation of **an** ~~a new~~ exception handler.

14. **(Currently Amended)** The apparatus of Claim 13, wherein ~~after the detector component detects installation of a new exception handler,~~ the **emulated computer executable code comprises instructions for** ~~detector component monitors code execution to detect~~ forcing ~~of~~ a corresponding exception.

15. **(Currently Amended)** The apparatus of Claim 11, wherein the **at least one modification comprises** ~~detector component detects~~ writing of a ~~new~~ pointer to at least one predetermined address in **a** system memory for storing an exception handler pointer.

16. **(Currently Amended)** The apparatus of Claim 11, wherein the **at least one modification comprises** ~~detector component detects~~ installation of **an** ~~a new~~ interrupt handler.

17. **(Currently Amended)** The apparatus of Claim 16, wherein **the emulated computer executable code comprises instructions for** ~~after the detector component detects installation of a new interrupt handler, the detector component monitors code execution to detect~~ forcing ~~of~~ a corresponding interrupt.

18. **(Currently Amended)** The apparatus of Claim 11, wherein the **at least one modification comprises** ~~detector component detects~~ writing of a ~~new~~ pointer to at least one predetermined address in **a** system memory for storing an interrupt handler pointer.

19. **(Currently Amended)** The apparatus of Claim 11, wherein the **at least one modification comprises** ~~monitor component detects~~ use of a predetermined instruction to retrieve an address in **a** system memory corresponding to an interrupt descriptor table.

20. **(New)** The method of Claim 1, wherein the computer system comprises a first memory component and a second memory component, and wherein access to the second memory component is more restricted than access to the first memory component.

21. **(New)** The method of Claim 20, wherein the exception handler or the interrupt handler attempts to modify the second memory component.